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Environmental Assessment of the Endangered Species Act Section 10(a)(1)(B) Permit to the North Carolina Division of Marine Fisheries for Management of the Fall Gillnet Fishery for Flounder in Southern Pamlico Sound

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National Marine Fisheries Service
National Oceanic and Atmospheric Administration
Department of Commerce

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Executive Summary

This environmental assessment (EA) is being prepared in accordance with the National Environmental Policy Act (NEPA), regulations issued by the Council on Environmental Quality (CEQ) (40 CFR Parts 1500-1508), Executive Order (EO) 12866, and regulations issued by the National Oceanic and Atmospheric Administration Administrative Order 216-6.

This EA analyzes the effects to the human and natural environment caused by the issuance by the National Marine Fisheries Service of an Endangered Species Act Section 10(a)(1)(B) Permit (the permit) to the North Carolina Division of Marine Fisheries (NCDMF) for management of the fall gillnet fishery for southern flounder in southeastern Pamlico Sound. The Section 10 permit authorizes the incidental taking of endangered and threatened sea turtles in the fishery. High levels of sea turtle strandings in the fall of 1999 were determined to be the likely result of incidental capture in the large-mesh gear used in this fishery. Since no authorization for incidental capture of endangered sea turtles existed, NMFS implemented an emergency 30-day rule closing the fishery towards the end of the season (64 FR 70196, December 16, 1999).

NCDMF submitted an application to NMFS on June 21, 2000 for a permit that would authorize the incidental taking of sea turtles in the fall gillnet fishery for flounder in southeastern Pamlico Sound. Following further discussions between NMFS and NCDMF, a revised application was submitted on July 21, 2000. The application includes a conservation plan in which NCDMF will use a variety of adaptive fishery management measures and restrictions through their state proclamation authority to reduce sea turtle mortality in the fall gillnet fishery by 50%, compared to the mortality level indicated by strandings in 1999. Sea turtle mortality in the permit area will be monitored through strandings and through an observer program that is a component of the conservation plan. The NCDMF observer program will achieve 5% coverage in the large-mesh flounder fishery. The application is for a one-year permit, so the effectiveness and appropriateness of the 2000 measures can be evaluated in light of the information learned from this year’s conservation plan.

Issuing this permit will allow the continuation of a $1 million per year fishery with significant local economic importance, will reduce sea turtle mortality by 50 percent from 1999 levels, will provide significant observer information on gillnet-turtle

interactions, and will give responsibility for sea turtle protection from fishery incidental mortality to the state agency most capable of effectively managing it.

Introduction

All sea turtles that occur in U.S. waters are listed as either endangered or threatened under the Endangered Species Act of 1973 (ESA). The Kemp's ridley (Lepidochelys kempii), leatherback (Dermochelys coriacea), and hawksbill (Eretmochelys imbricata) are listed as endangered. The loggerhead (Caretta caretta) and green (Chelonia mydas) turtle are listed as threatened, except for breeding populations of green turtles in Florida and on the Pacific Coast of Mexico, which are listed as endangered.

Under the ESA and its implementing regulations, taking sea turtles--even incidentally--is prohibited, with exceptions identified in 50 CFR 223.206. The incidental take of endangered species may only legally be authorized by an incidental take statement or an incidental take permit issued pursuant to section 7 or 10 of the ESA. Existing sea turtle conservation regulations specify procedures that NMFS may use to determine that unauthorized takings of sea turtles are occurring during fishing activities, and to impose additional restrictions to conserve listed sea turtles and to prevent unauthorized takings (50 CFR 223.206(d)(4)). Restrictions may be effective for a period of up to 30 days and may be renewed for additional periods of up to 30 days each.

Most fisheries that operate exclusively in state waters cannot receive incidental take authorizations through section 7, which applies only to Federal actions, and virtually no Atlantic state-managed fisheries are presently covered by section 10 permits (only 1 on the Atlantic and Gulf coasts). Therefore, when state-managed fisheries take sea turtles, particularly endangered Kemp’s ridleys, leatherbacks, or hawksbills, NMFS frequently must impose temporary restrictions and even closures on state fisheries. These temporary restrictions are usually reactive, and while they have been effective at reducing further mortality, they have often come after significant elevated mortality has already occurred. Also, the additional restrictions must be issued with little or no prior notice to the fishermen to be effective at protecting sea turtles, and can be disruptive to the fishery.

1.0 Purpose and Need for the Action:

NCDMF submitted an application to NMFS on June 21, 2000 for a section 10 permit that would authorize the incidental taking of sea turtles in the fall gillnet fishery for southern flounder (Paralichthys lethostigma) in southern Pamlico Sound. The application includes a conservation plan in which NCDMF would use a variety of adaptive fishery management measures and restrictions through their state proclamation authority to reduce sea turtle mortality in the fall gillnet fishery by 50 percent, compared to the mortality level indicated by strandings in 1999. Sea turtle mortality in the permit area would be monitored through strandings and through an observer program that is a component of the conservation plan. The NCDMF observer program would achieve 5 percent coverage in the large-mesh fishery and would also monitor other fisheries in the area at a lower level. The application is for a one-year permit, so the effectiveness and appropriateness of the 2000 measures could be evaluated in light of the information learned from this year's conservation plan.

Last Year's Events

In early November 1999, significant increases were noted in inshore sea turtle strandings in the southeastern portion of Pamlico Sound. During November and December, a total of 97 strandings occurred in the area. Kemp's ridley turtles accounted for 46 of the strandings; 31 of the strandings were loggerhead turtles; and 20 of the strandings were green turtles. Onboard sea turtle monitoring was conducted by the NCDMF in southeastern Pamlico Sound during November 22-24, 1999. Eleven observer trips were conducted, consisting of five trips aboard deep water flounder gillnet (five inch and larger stretched mesh) vessels and six trips aboard spotted seatrout gillnet (three to five inch stretched mesh) vessels. Gear characteristics, set locations and soak times were recorded for each set. Two Kemp's ridley turtles were observed captured in deep water flounder gillnets in five observer trips. No sea turtles were captured in the observed trips aboard the small mesh gillnet vessels. While limited data are available concerning gill net takes of sea turtles (Magnuson, et al.,1990), the deep water, large mesh gillnet fishery for flounder in southeastern Pamlico Sound was suspected of being responsible for a significant portion of the sea turtle strandings. The NCDMF Marine Patrol and NOAA Fisheries Enforcement personnel conducted joint surveillance of the Pamlico Sound shrimp and gillnet fisheries during November 1999. No shrimp trawl TED violations were detected in the area. Enforcement personnel reported significant large mesh gillnet

activity in the vicinity of the strandings. An untended large-mesh gillnet was checked by enforcement personnel, and a dead Kemp's ridley turtle was found entangled in the net. On December 10, 1999, the National Marine Fisheries Service (NMFS) issued an emergency rule closing southeastern Pamlico Sound to the use of gillnets larger than five inch mesh to protect endangered and threatened sea turtles (NMFS, 1999). Strandings decreased after implementation of the closure; however, many fishermen had stopped fishing for flounder prior to the closure. The closure remained in effect through January 9, 2000.

The Fishery

The fall flounder gillnet fishery in the Pamlico Sound occurs predominantly in an area lying south of a line running westerly from a point on Hatteras Island, Dare County (35° 23' 00" N - 75° 30' 00" W) through the Avon Channel Entrance Beacon No. 1 (35° 23' 00" N - 75° 33' 38" W) thence westerly to Bensons Point (35° 23' 00" N - 76° 03' 42" W) at Wysocking Bay, Hyde County and east of a line running southerly from Bensons Point along the eastern edge of Bluff Shoal to the west side of Ocracoke Inlet, Carteret County (35° 03' 42" N - 76° 02' 12" W) thence running easterly and northerly along the shoreline of the Pamlico Sound back to the point of beginning. NCDMF refers to this area in their application as the Gillnet Restricted Area (GRA). Flounder gillnets are set in the GRA from mid-September through mid-December in waters ranging between 10 and 20 feet deep to target flounder migrating from the estuaries to offshore spawning grounds. Pamlico Sound flounder gillnets are normally hung with 5 ½ to 6 ½ inch mesh monofilament webbing, and fishermen routinely set from 2,000 to 10,000 yards of net at a time. Telephone interviews (n=31) by NCDMF staff with flounder gillnet fishermen indicate that in 1999 the average amount of 5 inch and larger mesh gillnet set per fishing operation was 4,750 yards. Many of the flounder gillnet fishermen use net reels to set and retrieve their gear. The nets are approximately 10 feet deep, however many fishermen use tiedowns which restrict the nets to the bottom three to four feet of the water column. The nets are constructed of small diameter (.40mm to .60mm) webbing that is hung loosely to create excess bag in the net which improves the catch of flounder. Flounder gillnets are normally fished every day or every other day depending on recent catches and weather conditions. Soak times generally range between 12 and 48 hours. Average soak times ranged from 25.7 hours to 36.7 hours between 1991 and 1996 (NCDMF, 1997). NCDMF Trip Ticket Program information for 1999 indicates that 45 vessels greater than 25 feet in length and nine vessels less than 25 feet in length

landed more than 1,000 pounds of flounder per month from September through December in Pamlico Sound. Trip ticket data from 1995-1999 indicate that gillnet effort in the flounder fishery in terms of numbers of trips has remained relatively constant over that period. Pamlico Sound flounder fishermen have commented, however, that the average amount of net fished per fishermen has increased substantially over the past two years.

The Trip Ticket Program requires that commercial landings be reported by water body and gear. There are no subdivisions for the Pamlico Sound water body, and gillnets landings are not reported by mesh size. Flounder landings by large mesh gillnets in southeastern Pamlico Sound can not be separated from flounder landings by other gillnets set in the area. The Trip Ticket Program does allow flounder landings to be identified by gear and by month for the Pamlico Sound. Monthly values are not available from the trip ticket data, these values are derived from annual values. The majority of the Pamlico Sound flounder landings by float and sink gillnets occur during the period September through December. It is assumed that these landings are predominately from the large mesh fishery because the minimum size limit for flounder in state estuarine waters is 13 inches. It is also assumed that the majority of the landings are from the southeastern portion of the Sound because this area serves as a fall migration route for flounder. Gillnet landings of flounder for Pamlico Sound for September through December 1998 were 714,879 pounds valued at $1,321,505. Preliminary data for 1999 indicate that 621,518 pounds of flounder were landed in the Pamlico Sound fall gillnet fishery. Preliminary data indicate that these landings were valued at $1,069,967.

2.0 Description of the Proposed Action and Alternatives

2.1 The Proposed Action – Issuance of the Permit

Under this alternative, NMFS would issue the permit as applied for by NCDMF. The permit would authorize the capture and mortality of endangered and threatened sea turtles during the course of otherwise legal fishing operations in southeastern Pamlico Sound using gillnets with a mesh size of at least 5 inches stretched. This authorization would apply within the GRA in southeastern Pamlico Sound. NCDMF would implement a conservation plan to monitor, minimize, and mitigate the impact of the incidental taking. The conservation plan includes 7 management measures that NCDMF would apply throughout the

September 15 - December 15 season:

1. Fishermen will be required to obtain a NCDMF issued permit for participation in large mesh fall gillnet fisheries in the GRA.
2. An individual fishing operation will be prohibited from setting more than 3,000 yards of gillnet larger than 5 inches at any one time in the GRA.
3. Fishermen will be required to report gear interactions with sea turtles in the GRA to the NCDMF Communication Center in Morehead City, NC or a NCDMF Marine Patrol officer as soon as possible after discovery of an interaction.
4. Onboard observer coverage will be implemented for the flounder gillnet fishery at about a 5% coverage level, based on the number of trips in 1999 and for other fisheries in the GRA at lower levels.
5. Fishermen will be required to bring all incidentally captured Kemp's ridley carcasses ashore for collection of biological data by North Carolina Wildlife Resources Commission (NCWRC) or NMFS staff. Fishermen will also be authorized to bring in the carcasses of other species if requested to do so by the NCDMF.
6. Fishermen will be authorized to bring ashore live, debilitated turtles for examination and/or treatment by NCWRC or NMFS staff.
7. Fishermen will be required to release resuscitated sea turtles outside the GRA or to transfer resuscitated sea turtles to the NCDMF Marine Patrol or NMFS for observation and release outside the GRA.

During the course of the season, NCDMF would implement further fishery restrictions in response to sea turtle mortality observed in the observer program or sea turtle strandings. These measures could include area closures, gear restrictions – including the prohibition of tiedowns – maximum soak times, gear attendance requirements, gillnet permit modifications increased observer coverage, time closures, or gear closures. NCDMF has statutory authority to implement these fishery restrictions very rapidly through proclamations, which may take effect within 48 hours of issuance. The permit would not specify exactly which management measures would be taken in response to certain situations, as the problem of sea turtle interactions with this fishery is not well understood. This conservation plan would supply the best available information for management decisions in this fishery. Based on the observer information, stranding data, and reports from fishermen and law enforcement, NCDMF would decide, in consultation with NMFS, the most effective and appropriate

restrictions to implement. The NCDMF Marine Patrol would be responsible for enforcing restrictions in the GRA.

The fishery restrictions are intended to reduce the overall sea turtle mortality rate by 50 percent, compared to the 1999 strandings. Between September 15 and December 15, 1999, strandings in inshore zone 35 included 48 Kemp's ridley turtles, 17 green turtles, and 28 loggerhead turtles. Therefore, NCDMF would implement a gear prohibition or closure of the fishery if strandings of Kemp's ridley turtles in the GRA reach 24, or if green turtle strandings reach 9, or if loggerhead strandings reach 14, or if the observed mortalities, extrapolated linearly upward based on the actual percent observer coverage achieved, reach a level reflecting a similar at-sea mortality level. NCDMF would require weekly reports from fishermen or seafood dealers that would allow total effort in the fishery to be determined weekly. Using approximately 1 in 4 as the proportion of sea turtles that die at sea that ultimately strand (Murphy and Hopkins-Murphy 1989), those strandings correspond to an observed, extrapolated mortality level of 96 Kemp's ridleys, 36 greens, or 56 loggerheads. Although takes of hawksbill and leatherback turtles are unlikely and unanticipated, there is a possibility that a take of those species may occur, and the permit would authorize an incidental lethal take of 1 of each species.

Any permit issued would first be subject to the consultation requirements of section 7 of the ESA. Since this permit would involve incidental take of listed species, an incidental take statement would be required with mandatory reasonable and prudent measures to be carried out to minimize the impact of the taking. In addition, NMFS would retain the authority to regulate sea turtle-fishery interactions directly through 50 CFR 223.206(d)(4), to prevent sea turtle takes that would violate the incidental take permit or incidental take statement or that may be likely to jeopardize the continued existence of any species of sea turtle. While NCDMF would have the primary responsibility for ensuring that all aspects of the permit and plan are complied with, the existing NMFS authorities provide redundant protection for sea turtles if necessary.

2.2 The No Action Alternative – Denial of the Permit

The no action alternative would mean that incidental taking of endangered sea turtles in the fall gillnet fishery for flounder in southeastern Pamlico Sound would not be authorized. Any takes of endangered sea turtles by flounder gillnet fishermen during

otherwise lawful fishing would be illegal, and fishermen would be potentially subject to prosecution. Many or all of the elements of the conservation plan likely would not be implemented. For purposes of the analysis of the EA, NMFS will assume that none of the elements would be implemented, since NCDMF would be under no obligation to NMFS to do so. Management responsibility for protecting sea turtles from mortality in this fishery would remain solely with NMFS, and management measures would be subject to Federal rulemaking processes and requirements.

3.0 Affected Environment

Pamlico Sound is a large estuary situated between the eastern mainland of North Carolina and the Outer Banks. It is highly enclosed with two small navigable inlets, Ocracoke and Hatteras Inlets. The Sound is not very deep – around 20 feet deep through the center - with shallow water and shoals extending several miles into the Sound behind the barrier islands. Pamlico Sound is highly productive biologically, supporting important commercial and recreational fisheries for shrimp, crabs, and a wide variety of finfish.

Pamlico sound is considered Essential Fish Habitat (EFH) for various life stages of the following species: red drum, bluefish, summer flounder, gag grouper, gray snapper, cobia, king mackerel, Spanish mackerel, black sea bass, spiny dogfish, brown shrimp, pink shrimp, white shrimp, sandbar shark, and sheepshead. EFH means those waters and substrate necessary for fish to spawn breed, feed, or growth to maturity (Magnuson-Stevens Act, 16 U.S.C. 1801 et seq).

Manatees and all five species of sea turtle occur in North Carolina inshore waters. Manatees, however, are rare in Pamlico Sound. Leatherback and hawksbill turtles are infrequent visitors. Loggerhead, green, and Kemp’s ridley turtles appear to use North Carolina waters as important developmental habitats, as it is primarily juveniles of these species that are encountered. Loggerhead turtles have been the most abundant species, making up 80 percent of the turtles incidentally captured by commercial fishermen in Pamlico and Core Sounds in the October - December pound net fishery. Green and Kemp’s ridley turtles have accounted for about 15 and 5 percent of the captures, respectively. Kemp’s ridley and green turtles occur in North Carolina inshore waters in the highest proportions in the fall and early winter, which is likely a time of emigration (by turtles that have been resident in North Carolina sounds) and

migration (by turtles transiting to warmer waters from more northerly summer habitats) (Epperly *et al*. 1995). From 1995-1997, a significant increase in the catch-per-unit-effort of Kemp's ridleys in North Carolina inshore pound nets (NMFS, unpub. data) likely indicates increased abundance for that species in the sounds. As these are primarily juvenile turtles, this is also consistent with the exponential growth in hatchling production for Kemp's ridleys in the 1990's. The very high proportion of Kemp's ridleys in the 1999 strandings (over 50 percent), however, cannot be explained by overall abundance changes. The high proportion is likely attributable to different rates of capture and mortality in the most likely cause of the strandings – the large-mesh gillnet fishery for flounder – based on differing habitat choices and distribution in the Sound, the timing of migrations, behavioral differences among species (e.g. scavenging) and/or selectivity of the gear for capturing smaller turtles.

The operation of the Pamlico Sound flounder gillnet fishery has been described above (Introduction – The Fishery). NCDMF Trip Ticket Program information for 1999 indicates that 45 vessels greater than 25 feet in length and nine vessels less than 25 feet in length landed more than 1,000 pounds of flounder per month from September through December. NCDMF estimates that approximately 60 vessels or boats will participate in the fishery in 2000. The fishermen are all local, with homeports in the surrounding counties of Carteret, Pamlico, Hyde, and Dare. The economies in these fishing communities are heavily dependent on the seafood industry. The flounder fishery is strongly seasonal with most of the landings and value coming in September, October, and November. The fishermen in this fishery are diversified into other fisheries, particularly blue crab or ocean gillnet fisheries, and some have other income from shoreside work. The income from the flounder fishery is significant, though. Based on landings values of $1.3 million in 1998 and $1.0 million in 1999, the flounder fishery provides around $20,000 per year to each fishing family. The overall economic impact for the local area, including processing, distribution, and wholesale and retail sales is much larger.

4.0 Effects of the Proposed Action and Alternatives

4.1 Effects on Sea Turtles, Manatees and Other Resources

Proposed Action

Under the proposed action, the incidental taking of sea turtles during the course of otherwise lawful flounder gillnet fishing in Pamlico Sound would be authorized. Sea turtles would be subject to capture and mortality in large-mesh gillnets. The total amount of net used in the fishery may be reduced by up to 37% compared to 1999. Because the amount of net used would still be large, total rates of turtle capture may not decline by that full amount. Combined with adaptive management measures to be implemented by NCDMF, though, lethal impacts to sea turtles would be reduced by 50% or more in 2000, compared to 1999. Therefore, while sea turtles would be negatively affected, it would be to a much smaller extent than the status quo and recent history.

Manatees are rare in North Carolina waters. Their rarity in the area and the fact that there have not been any recorded manatee strandings resulting from interactions will gillnet equipment along the southeastern United States from 1993 through 1999 (NMFS Southeast Region Marine Mammal Human Interaction Summary 1999). Therefore the proposed action will not have a significant impact on manatees.

Seabirds are documented to be caught in coastal gillnets (Forsell, 1999, NMFS NEFSC unpub. data). The NCDMF does not restrict the southern flounder fishery in terms of amount of net fished, mesh size or soak time. Thus, the potential for seabird as well as non targeted finfish bycatch exists. A monitoring program to document bycatch has not been established and therefore the degree of bycatch is unknown. As with sea turtles and manatees, the continued operation of this fishery would negatively impact, to some unknown degree, seabirds and other finfish. The proposed action would reduce net length by 37% and is likely to be beneficial to non targeted resources. The proposed action also establishes a monitoring program that would provide necessary information on the level of bycatch in this fishery.

The No Action Alternative

If the permit is denied, the incidental taking of endangered sea turtles during the course of otherwise lawful flounder gillnet fishing in Pamlico Sound would remain prohibited. The flounder fishery itself, however, would not be prohibited. None of the measures of the conservation plan would be implemented. Sea turtles would likely experience capture rates and mortality at least as high as 1999 levels. The continued high stranding levels along the mid-Atlantic coast could appreciably impact the

ability of the northern subpopulation for the loggerhead turtle to reproduce and survive in the wild. The Kemp's ridley turtle population is increasing and thus an increase in fisheries interactions is expected. However, the continued lethal take from this severely depleted population may hinder the species ability to recover. No observer information would be gathered on actual sea turtle capture and mortality rates, so there would be little to no new information on which to base management actions to protect sea turtles from this and other gillnet fisheries. Because of the absence of this observer information, the only evidence of the impact of the action would be strandings. If strandings become very high, as they did in 1999, NMFS may implement emergency closures again. Any such reactive management, however, would likely only take place once significant turtle mortality had already occurred. The no action alternative is not expected to have a significant impact on manatees for the same reasons as the proposed action.

If the permit is denied, the amount of gillnet would not be restricted, and depending on the mesh size and how they are fished, finfish bycatch as well as protected resource bycatch would occur. Submerged aquatic vegetation is also impacted by trawls, dredges, pots, and seines and associated activities from fisheries (e.g. propellor damage from fishing vessels). If the permit is denied, a monitoring program would not be established and the degree of impacts for potential loss of benthic habitat and various species of finfish and seabirds would be unknown.

4.2 Effects on Socioeconomics

Proposed Action

Issuance of the permit would allow the fishery to continue. Fishermen who comply with the conservation plan, as implemented by NCDMF, would not be prohibited from incidentally capturing endangered sea turtles nor be subject to civil or criminal prosecution for incidental takes.

The major initial restriction that would be imposed on fishermen by NCDMF would be the limitation to 3,000 yards of net. This restriction may in fact have positive effects on the fishermen. In a fishery with unrestricted fishing gear, the justification for increases in amounts of gear may be more to compete for catch with other fishermen, rather than to increase the overall catch. In the flounder fishery, this appears to be the case, as the amount of gear has increased in the past few years without a

concomitant increase in landings. With uniform restrictions on gear fished, fishermen may still catch a similar amount of fish with less effort and expense. NCDMF would also require fishermen or seafood dealers to provide weekly information on the number of trips made in the GRA. This requirement would impose only a small additional burden over current state fisheries data reporting requirements.

If sea turtle strandings and/or observed mortality rise, NCDMF would impose additional restrictions on fishermen. The permit does not specify the exact measures to be taken in each circumstance, but the selection of measures would likely be guided by the principle of maximizing additional sea turtle protection while preserving to the maximum extent the harvest of flounder. The measures taken must be effective at protecting turtles to avoid the possibility of NCDMF having to close the fishery early if mortality reaches 50% of 1999 levels. Individual conservation measures implemented by NCDMF may have negative effects on fishermen, but the effects of these impacts are minor compared to the possibility of a premature closure of the fishery.

Issuance of the permit would have positive impacts on governance. Management of the flounder fishery and of sea turtle protection would be the responsibility of one agency, NCDMF. NCDMF has extensive resources and ability to interact with fishermen in the affected area. Communication between fishermen and government officials responsible for sea turtle conservation would improve. Measures to address sea turtle conservation in the flounder fishery could be implemented with maximum flexibility and speed. Fishery management and sea turtle conservation requirements would be enforced by NCDMF Marine Patrol which has the greatest local enforcement capability.

The No Action Alternative

If the permit were denied, the fishery would not automatically be closed, but fishermen who incidentally captured a turtle may be subject to prosecution and penalties. NCDMF may then be subject to third-party liability exposure for the prohibited take, as well. The results of such enforcement could be personally or organizationally very destructive.

None of the measures of the conservation plan would be implemented. Sea turtles would likely experience capture rates and mortality at least as high as 1999 levels. No observer

information would be gathered on actual sea turtle capture and mortality rates. Because of the absence of this observer information, the only evidence of the impact of the action would be strandings. If strandings become very high, as they did in 1999, and the flounder fishery is again determined to be the likely cause, NMFS may implement emergency closures again. If local abundances of sea turtles are higher this year, as may be the case for Kemp's ridleys, then elevated strandings could occur earlier in the season. An emergency closure that affected the prime months of the fishery – September, October, or November – would have a large, negative socioeconomic impact in the local fishing communities because of lost income from fishing.

4.3 Effects on Essential Fish Habitat

Proposed Action

Gill net fisheries are not known to have significant effects on water quality or the substrates necessary for fish to spawn, breed, feed, or grow to maturity. Therefore the proposed action will not have a significant impact on EFH.

The No Action Alternative

The no action alternative will not have a significant impact on EFH for the same reasons as the proposed action.

4.4 Other Media

The implementation of the preferred alternative or the no action alternative will not cause additional degradation of water quality, air quality, or cause an increase in environmental contaminants over current activities. The preferred alternative and the no action alternative will not affect cultural resources in the area, therefore coordination with the State Historic Preservation Officer, under the National Historic Preservation Act is not required.

5.0 References Cited

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